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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/524,491	03/13/2000	Francis J Maguire JR.	313-011-1	6120

4955 7590 09/18/2002

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

SHAPIRO, LEONID

ART UNIT

PAPER NUMBER

2673

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/524,491

Applicant(s)

MAGUIRE, FRANCIS J

Examiner

Leonid Shapiro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

2. The disclosure is objected to because of the following informalities: On page 10, Line 18 used abbreviation RVDT. All abbreviations in description/specification need to be deciphered.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification/disclosure does not provide support for subject matter recited in claims 1-7 as a whole to make or use applicant's claimed invention by one skilled in the art. The disclosure fails to state or teach one skilled in the art how to implement a support for supporting a user in a standing position. In Fig. 3 no connections made between support 2b and the rest of the construction at least leading to the floor, so Fig. 3 repeating Fig. 2 or Fig.4 up to the waist. No details of implementation disclosing how support and whole construction will work in a standing, seated, or reclining posture. Patent 5,792,031 does not helpful in understanding

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how moveable headrest and support will interact. Without this disclosure, one skilled in the art cannot practice the invention without undue experimentation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. As best understood by examiner, claim 1 rejected under 35 U.S.C. 102(b) as being anticipated by Park (US Patent No. 5,695,406), cited by the applicant.

Park teaches apparatus with a support for supporting a user in viewing images in reclining posture and movable headrest mounted on or with respect to support for supporting a head of user in executing head movements from a changing direction (See Fig. 1, items 12, 14, 16, in description See Col. 5, Lines 4-10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 5-6, 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Reichlen (US Patent No. 6,396,497 B1).

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As to claim 2, as best understood by examiner, Park does not teach display for providing images for viewing from changing directions.

Reichen teaches how a user can navigate through the visual space in response to head motion (See Fig. 1, items 10, 12, , 22, in description See Col. 5, Lines 33-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichen in the Park apparatus in order to enhance the virtual reality experience.

As to claim 5-6, as best understood by examiner, Park does not teach display with sensor for sensing movements of headrest from a changing direction.

Reichen shows this kind of sensor (See Fig. 1, item 24, in description See Col. 5, Lines 33-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the sensor of Reichen in the Park apparatus in order to enhance the virtual reality experience.

As to claim 8, Park teaches moveable headrest for supporting a user's head (See Fig. 1, items 12, 14, 16, in description See Col. 5, Lines 4-10).

Park does not teach about a sensor coupled to a moveable headrest responsive to head movements of the user, for providing a sensed signal having a magnitude indicative of different directions-of-view, a reality engine responsive to a sensed signal, for providing an image signal indicative of a sequence of images from different directions-of-view selected according to sensed signal and a display, responsive to image signal, for providing sequence of images for viewing by user from different directions-of-view.

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Reichen shows this type of the system with sensor attached to the user's head (See Fig. 1-5, item 24, 34, 36, 42, 56, 62, 50, in description See Col. 5, Lines 33-67 and Col. 6 and 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the navigation method of Reichen in the Park apparatus in order to enhance the virtual reality experience.

6. Claims 3-4, 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Park, as aforementioned in claims 1 and 2 in view of Zavracky et al. (US Patent No. 5,673,059)

As best understood by examiner, Park does not teach an actuator for moving moveable headrest.

Zavracky et al. shows the actuator witch used with head-mounted display and could apply to the headrest of Park (See Fig. 19, item 1372, in description See Col.19, Lines 28-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the actuator of Zavracky et al. in Park apparatus in order to enhance the virtual reality experience.

7. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Reichlen in view of Helman (US Patent No. 5,791,735), cited by the applicant and further in view of Zavracky et al.

Reichlen teaches apparatus with a reality engine (computer), responsive to a start command signal, for providing an image signal indicative of a sequence of images from different directions-of-view and providing an actuator command signal and a display, responsive to image signal, for providing sequence of images for viewing by the user from different directions-of-

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view (See Fig. 1-5, item 24, 34, 36, 42, 56, 62, 50, in description See Col. 5, Lines 33-67 and Col. 6 and 7).

Reichlen does not teach an actuator, responsive to actuator command signal, for moving a headrest supporting a user's head with movements corresponding to different directions-of-view.

Helman teaches a moveable headrest, attached to support could be controlled by the motor (See Fig. 2, items 14,30,28, in description See Col. 7, Lines 50-66).

Zavracky et al. shows the actuator witch used with head-mounted display and could apply to the headrest of Helman (See Fig. 19, item 1372, in description See Col.19, Lines 28-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the headrest of Helman and actuator of Zavracky et al. in Reichen apparatus in order to enhance the virtual reality experience.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

The Beckman (Us Patent No. 5,388,990) reference discloses a virtual reality flight control display...

The Ansley (Us Patent No. 5,319,490) reference discloses a helmet-mounted display including synchronously moving tilted mechanisms.

The Yasukawa et al. (Us Patent No. 5,977,935) reference discloses a head-mounted image display device and data processing apparatus.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

ls
September 6, 2002



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600